What is claimed is:

1.   A method of establishing a call in a wireless network, comprising:

    sending a request for a packet-switched call over the wireless network; and

    communicating control signaling in a traffic channel of the wireless network to establish the packet-switched call.

2.   The method of claim 1, wherein sending the request comprises sending the request in a random access channel.

3.   The method of claim 2, wherein sending the request comprises sending a predefined code in a random access channel of an Enhanced General Packet Radio Services system.

4.   The method of claim 3, wherein sending the code comprises sending the code in a channel selected from the group consisting of a RACH, PRACH, and CPRACH.

5.   The method of claim 1, further comprising retrieving a pre-assigned code to send in the request.

6.   The method of claim 5, wherein retrieving the pre-assigned code comprises retrieving a random access channel mobile station code.

7.   The method of claim 1, wherein communicating the control signaling comprises communicating the control signaling in a packet data traffic channel.

8.   The method of claim 7, wherein communicating the control signaling comprises communicating the control signaling in PDTCH bursts of an Enhanced General Packet Radio Services system.

1   9.   The method of claim 7, wherein communicating the control signaling

2 comprises communicating the control signaling in a packet data traffic channel mapped to

3 a dedicated physical channel.

1   10.   The method of claim 9, further comprising communicating bearer traffic

2 in another traffic channel mapped to the dedicated physical channel.

1   11.   The method of claim 10, wherein communicating the control signaling

2 comprises communicating the control signaling in a PDTCH, and wherein

3 communicating the bearer traffic comprises communicating the bearer traffic in a TCH,

4 the PDTCH and TCH defined according to an Enhanced General Packet Radio Services

5 protocol.

1   12.   The method of claim 1, wherein communicating the control signaling

2 comprises communicating Session Initiation Protocol messages.

1   13.   The method of claim 12, wherein communicating the control signaling

2 comprises communicating a Session Initiation Protocol Invite request.

1   14.   The method of claim 1, further comprising sending a release message to

2 terminate the packet-switched call in a traffic channel.

1   15.   The method of claim 14, wherein sending the release message comprises

2 sending a Session Initiation Protocol Bye message.

1   16.   The method of claim 1, further comprising sending quality-of-service

2 related messages in a traffic channel.

1   17.   The method of claim 16, wherein sending the quality-of-service related

2 messages comprises sending Resource Reservation Protocol messages.

1   18.   The method of claim 1, wherein communicating the control signaling

2   comprises communicating the control signaling in PDTCH bursts, the method further

3   comprising communicating bearer traffic in TCH bursts.

1   19.   The method of claim 1, wherein communicating the control signaling

2   comprises communicating the control signaling in PDTCH bursts, the method further

3   comprising communicating bearer traffic in PDTCH bursts.

1   20.   An article comprising one or more storage media containing instructions

2   that when executed cause a controller to:

3   send control signaling to request a channel for a packet-switched call over

4   a wireless network; and

5   add a predetermined code into the control signaling to identify the call as a

6   packet-switched call.

1   21.   The article of claim 20, wherein the instructions when executed cause the

2   controller to send the control signaling selected from the group consisting of RACH,

3   PRACH, and CPRACH.

1   22.   The article of claim 20, wherein the instructions when executed cause the

2   controller to further communicate packet-switched call control signaling in traffic

3   channels of the wireless network.

1   23.   The article of claim 20, wherein the instructions when executed cause the

2   controller to communicate Session Initiation Protocol messages in traffic channels of the

3   wireless network.

1   24.   The article of claim 23, wherein the instructions when executed cause the

2   controller to communicate the Session Initiation Protocol messages in PDTCH bursts of a

3   General Packet Radio Services system.

1   25.   The article of claim 23, wherein the instructions when executed cause the

2   controller to communicate a Session Initiation Protocol Invite message.

1   26.   The article of claim 25, wherein the instructions when executed cause the

2   controller to receive response messages to the Invite message.

1   27.   The article of claim 23, wherein the instructions when executed cause the

2   controller to communicate a Session Initiation Protocol Bye message to release a call.

1   28.   The article of claim 23, wherein the instructions when executed cause the

2   controller to communicate messages to provide a supplementary service.

1   29.   A mobile station for use in a wireless communications system having base

2   stations, comprising:

3   a storage element storing a predetermined code associated with packet-

4   switched calls; and

5   a controller to send control signaling to one of the base stations over a

6   wireless link to set up a packet-based call,

7   the control signaling containing the predetermined code.

1   30.   The mobile station of claim 29, wherein the control signaling comprises a

2   random access channel.

1   31.   The mobile station of claim 30, wherein the random access channel

2   comprises a packet random access channel.

1   32.   The mobile station of claim 31, wherein the packet random access channel

2   comprises a COMPACT packet random access channel.

1   33.   A radio network control system, comprising:

2   an interface to a wireless link capable of communicating with a mobile

3   station; and

4   a controller adapted to receive a request to set up a packet-switched call

5   over the wireless link,

6   the controller further adapted to assign a logical channel combination in

7   response to the request.

1   34.   The radio network control system of claim 33, wherein the logical channel

2   combination comprises TCH + FACCH + SACCH + PDTCH + PACCH + PTCCH.

1   35.   The radio network control system of claim 34, wherein the controller is

2   adapted to communicate Session Initiation Protocol messages are in PDTCH bursts.

1   36.   The radio network control system of claim 34, wherein the controller is

2   adapted to communicate a success indication of a packet-switched call session in a

3   PACCH burst.

1   37.   The radio network control system of claim 34, wherein the controller is

2   adapted to communicate radio resource management signaling in a PACCH burst to

3   indicate a state of the packet-switched call.

1   38.   A data signal embodied in a carrier wave and containing instructions that

2   when executed cause a system in a wireless network to:

3   receive control signaling to set up a packet-switched call over the wireless

4   network, the control signaling carried in a first traffic channel; and

5   establish the packet-switched call over the wireless network.

1   39.   The data signal of claim 38, wherein the instructions when executed cause

2   the system to further communicate bearer data in a second traffic channel.

1   40.   The data signal of claim 39, wherein the control signaling is carried in a

2   PDTCH and the bearer data is carried in a TCH.

1   41.   The data signal of claim 38, wherein the instructions when executed cause

2   the system to further communicate bearer data in the first traffic channel.